# B APRIL 2019 DARTBROOK UNDERGROUND MINE SITE VISIT INDEPENDENT PLANNING COMMISSION

Australian Pacific Coal

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### **Site Visit - Overview**





- 1. Administration office (west site)
- 2. Kayuga box-cut viewing platform
- 3. Archaeological site
- 4. Proposed shaft site
- 5. Coal handling plant Hunter Tunnel portal
- 6. Garoka Dairy

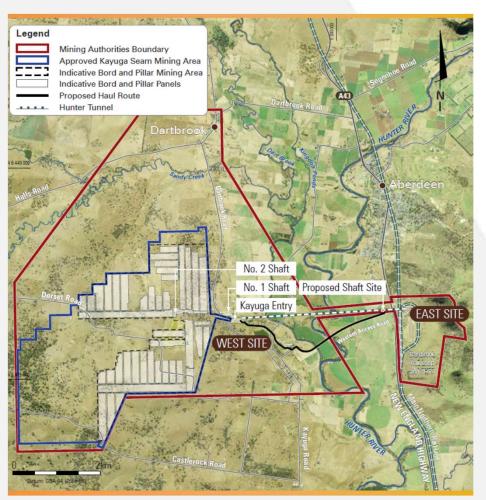
 Site tour for members of Independent Planning Commission (IPC) in relation to Dartbrook Modification 7

## **Executive Summary**



- Australian Pacific Coal (AQC) is an Australian owned company listed on the ASX
- In May 2017, AQC acquired Dartbrook Mine for AUD \$30 million. The acquisition was approved by the NSW State Government
- In Feb 2018, AQC lodged an application to modify the existing underground approval for Dartbrook (MOD 7)
- AQC has undertaken significant environmental assessment and consultation with many stakeholders to prepare for further underground mining at the Dartbrook Mine, including entering voluntary planning agreements with the local Muswellbrook and Upper Hunter Shire Councils
- In Jan 2019, DPE referred MOD7 to the Independent Planning Commission (IPC) 'concluding that the impacts are acceptable and the proposal is approvable'
- The recommencement of underground mining at Dartbrook will have insignificant environmental impacts and very material socio-economic benefits to the Upper Hunter Region and NSW more generally

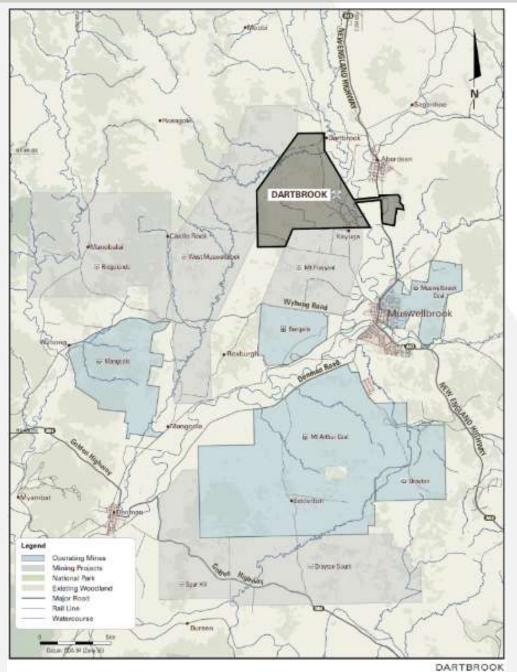
#### Conceptual Modification Layout



## **Dartbrook: Hunter Valley Location**



- Dartbrook is located in the upper Hunter Valley in NSW.
- The town of Muswellbrook is the closest, approximately 10 km to the southeast.
- Aberdeen lies approximately 4.5 km northeast of Dartbrook.
- Dartbrook is connected to port facilities in Newcastle (130 km southeast) via the Main Northern Railway and the New England Highway.
- The Hunter Valley coal region is renowned for its benchmark, high quality export coal. Dartbrook is one of the most significant, under-developed coal assets in the region.

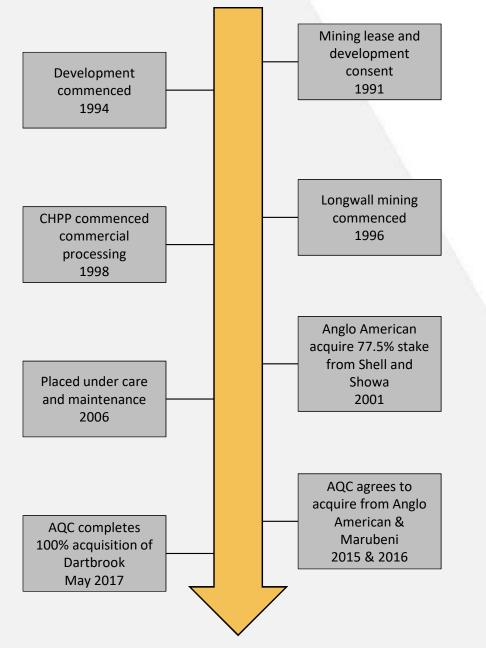


### **Development & Operational History**

#### Longwall development and mining

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- Under former ownership, the mine produced 30 Mt ROM coal from 1996 – 2006, initially from the Wynn and then the Kayuga seams
- On completion of Wynn mining, several modifications were made to existing longwall equipment to relocate it to the Kayuga seam
- After reporting geotechnical and mining efficiency issues in the Kayuga seam, Dartbrook was placed under care and maintenance at the end of 2006
- The Wynn equipment was deemed not optimal for the Kayuga seam and needed upgrading – reportedly the internal competition for capital prevented a subsequent restart in the Kayuga seam despite a higher coal price environment
- Initial studies by former owners indicated that the operating challenges experienced could be overcome through the use of modern mining equipment, technology and mining practices

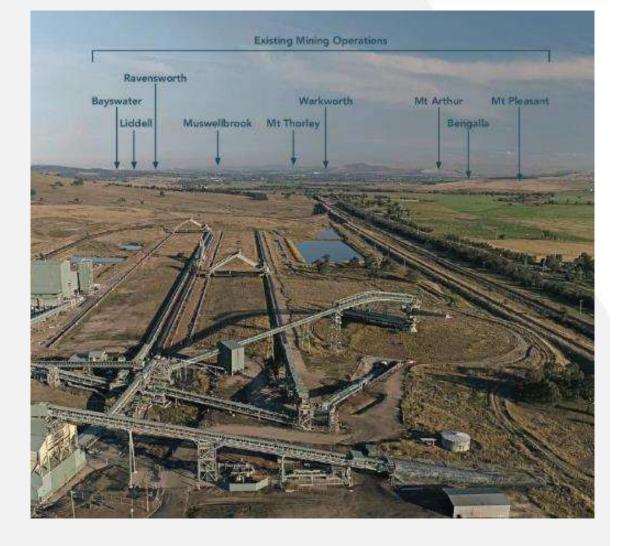


## **Existing Infrastructure & Land Ownership**

#### Substantial historical capital invested



- The mines infrastructure has been well maintained and is in good condition
- Surface infrastructure includes power, water and office facilities necessary to support underground mining operations.
- Train Load Out facility and rail loop connect to the Hunter Valley Coal Rail Network for coal transportation to the Port of Newcastle, the largest coal export operation in the world.
- Proximate to world-class infrastructure, expertise, suppliers and labour pool already supporting adjacent mining operations

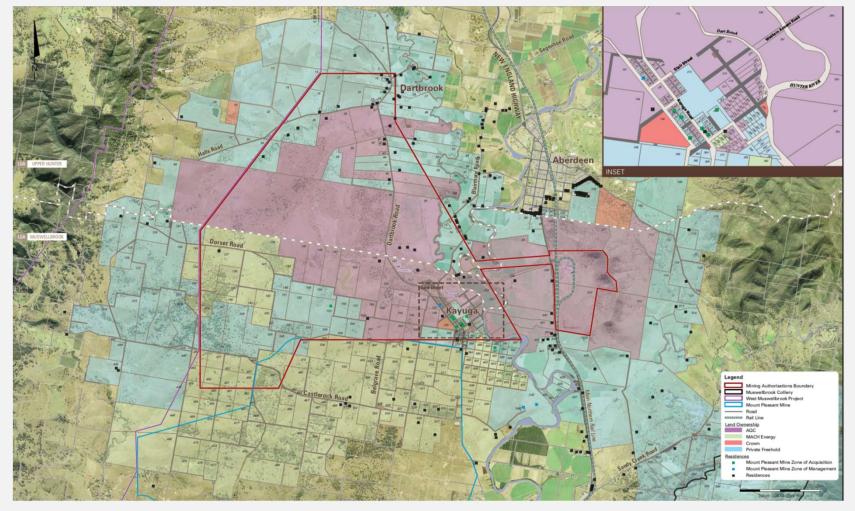


## **Existing Infrastructure & Land Ownership**

#### Substantial historical capital invested (continued)



- AQC owns 3,180 hectares of freehold land in and surrounding mining area
- Large buffer zone to immediate neighbours
- Underground mining has historically not affected agricultural operations
- Garoka Dairy and beef cattle grazing occurs immediately adjacent mine infrastructure and over underground mine workings



Local Overview and Land Ownership

## **Exploration & Environment**

#### Engaging with local stakeholders

#### **Exploration Activities**

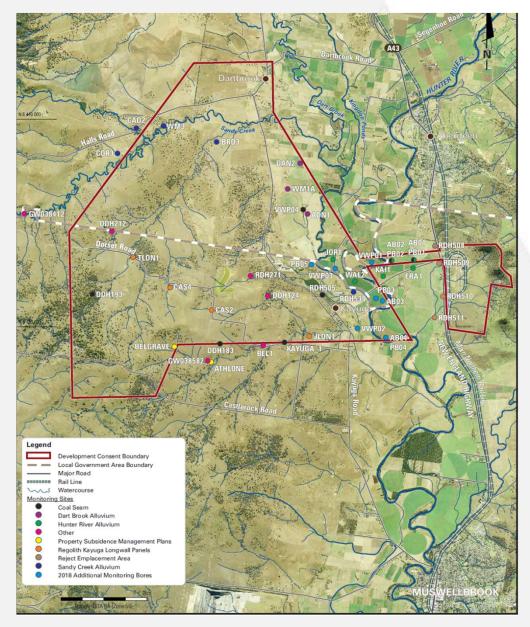
 A drilling program was completed in October 2018 including the installation of 13 groundwater monitoring bores. Further works were also carried out to seal and rehabilitate of a number of historic exploration boreholes.

#### Water Quality Monitoring

- Dartbrook has expanded the surface water monitoring network by implementing additional monitoring sites. These monitoring sites will provide further data on the water quality upstream and downstream for the Hunter River and Dart Brook
- This program for additional monitoring sites was developed in close consultation with the relevant government department throughout 2017 and 2018

#### Groundwater Monitoring Network

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# Current Approved Underground Operations

## **Approved Underground Operations**

#### **Overview**



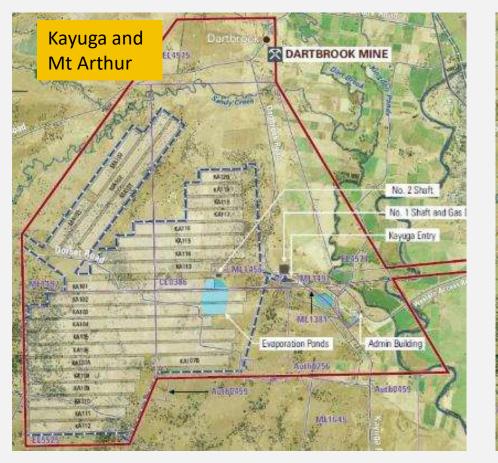
- Dartbrook is an approved coal mine with the original Development Consent granted in 1991 and first mining in 1994
- The mine owns 3,180 hectares of freehold land and various private roads necessary for activities
- The current Development Consent DA 231-7-2000 permits:
  - Extraction of up to 6 Million tonnes per annum (Mtpa) of Run of Mine (ROM) coal until 5 December 2022
  - Longwall mining activities in the Wynn, Kayuga, Mt Arthur and Piercefield coal seams
  - Transfer of ROM coal to the coal handling and preparation plant (CHPP) via the Hunter Tunnel (underground conveyors)
  - Transportation of product coal to Newcastle via the Main Northern Rail Line

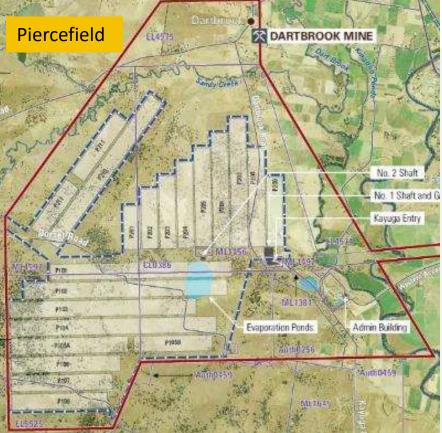
## **Approved Underground Operations**

**Overview (continued)** 



 The approved mine plan extent include the Wynn and Kayuga seams which were mined by prior owners



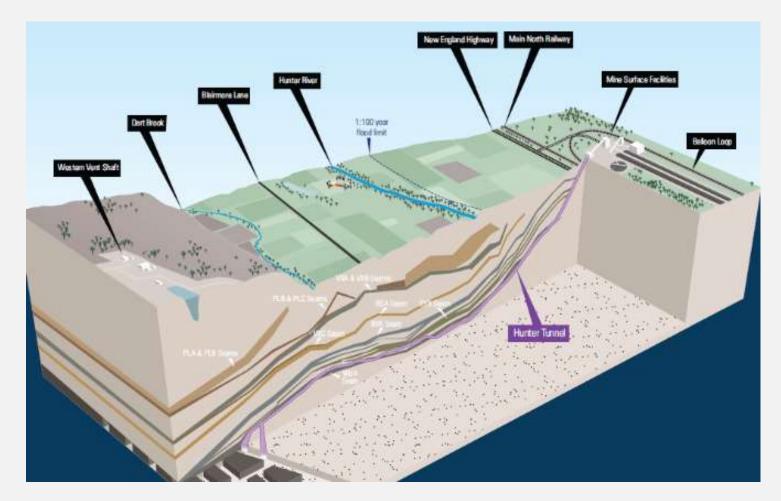


## **Approved Underground Operations**

**Overview (continued)** 



- The current coal clearance system relies only on conveyors in the Hunter Tunnel
- The tunnel avoids any interaction between operations and the New England Highway





# Underground Modification Proposal (MOD 7)

#### **Overview**



- Modification 7 (MOD7) will facilitate the re-commencement of mining operations at Dartbrook Mine by providing an alternative mining method and coal clearance system, in addition to those already approved by DA 231-7-2000, to enable flexibility for Dartbrook to transition back to operations
- Proposed mining activities:
  - Extraction of approximately 10 Mt of ROM coal via bord and pillar mining within the Approved Mining Area of the Kayuga Seam
  - No increase in mining footprint target coal is already approved for extraction
  - Total production will remain within the approved rate of 6 Mtpa
- MOD 7 also includes an extension of the approval period by 5 years (until December 2027)

#### Summary of Modification key operational elements



Aspect	Approved	Modification (in addition to Approved activities)
Mining Method	Longwall mining (underground)	Option of Bord and Pillar mining (underground) in the Kayuga Seam
Production Rate	Maximum of 6 Mtpa	Up to 1.5 Mtpa from bord and pillar mining No change to approved maximum production
Seams	Wynn, Kayuga, Mt Arthur, Piercefield	B&P mining in Kayuga Seam No change to mining seams or area already approved
Coal Clearance System	Conveyor through 4km Hunter Tunnel	Additional coal haul route via truck to new shaft, utilising conveyor through a section of the Hunter Tunnel under New England Highway
Coal Transport	Train loadout and rail loop to Main Northern Rail Line	No change
Approval period	Until 5 December 2022	5 additional years until 5 December 2027

#### Kayuga coal seam



- In addition to existing longwall extraction approval, MOD 7 proposes Bord and Pillar mining in the Kayuga Seam
- Mining conditions in the Kayuga Seam are noted as:
  - Low gas content
  - Very low groundwater inflows into Kayuga seam goaf
  - Geotechnical assessment recommends the roof is supported whilst coal is being extracted. "In place" bord and pillar mining is the most suitable method



#### Legend



Site Boundary

Approved Underground Mining Area

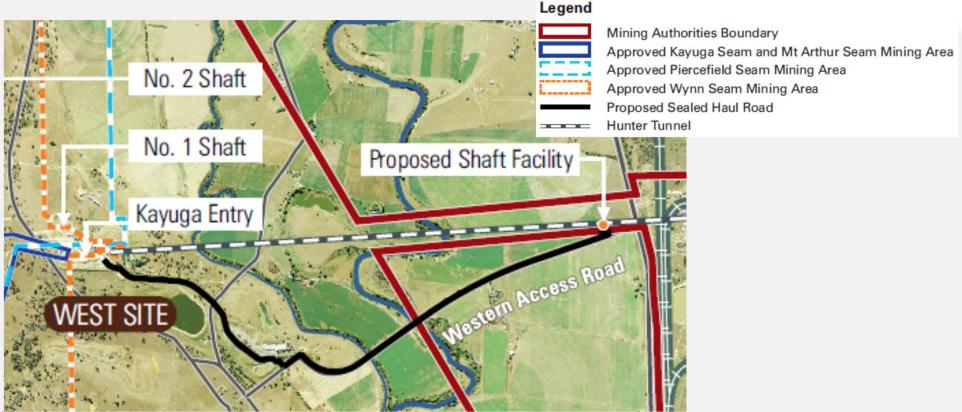
Proposed Bord and Pillar Mining Area

- Road
- Watercourse

Coal clearance additional option



- In addition to existing coal clearance system, MOD 7 provides an alternative option summarised as:
  - Haulage of ROM coal from Kayuga Entry to new shaft via private roads
  - Shaft will transfer coal via Hunter Tunnel to CHPP ROM pad, utilizing the existing tunnel segment under the New England Highway and Northern Rail Line



#### Coal clearance additional option (continued)



- New shaft and coal bin will be enclosed to reduce dust and noise
- Access off the Western Access Road and the truck drivethrough bay will be sealed to minimise dust



## **Community & Benefits**

#### Economic and other benefits for the local community

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- The recommencement of mining at Dartbrook will deliver substantial benefits to the local and wider community
- Economic modelling provided with MOD 7 has estimated substantial net production benefits will accrue to Australia (\$176 million), New South Wales (\$82 million) and the local community.
- The Local Effects Analysis predicted the following <u>annual</u> effects on the local economy during the operational phase:
  - Up to \$95 million in output;
  - Up to \$54 million in value-added;
  - Up to \$12 million in wages, of which \$8 million to \$9 million will accrue to the local labour force; and
  - Up to 99 jobs

Dartbrook proudly supported and funded the development of the "Learning Naturally" area for the Muswellbrook Preschool Kindergarten in 2018



**Environmental Impacts and Management** 



AQC has conducted various environmental assessments, utilising reputable and experienced environmental, scientific and economic professionals, to support MOD 7 by demonstrating the minimal impact of the development.

Environmental Focus	Summary of Impacts Assessment for MOD 7	Summary of Management and Mitigation Areas	
Air Quality	The Modification alone will comply with all air quality criteria Cumulative emissions may exceed the annual average PM2.5 criterion. These exceedances are due to high background levels.	Sealing of the roads at the new shaft site Use of street sweeper along sealed roads Covering of truck loads Use of water sprays on coal stockpiles, conveyor transfers, ROM bins	
Noise	The Modification will comply with construction noise limits Potential exceedances of operational noise criteria (by 1 dBA) at residences in southernmost part of Aberdeen	Noise attenuation of equipment Limit truck haulage to day time hours only Continual monitoring through network of monitoring equipment at various locations	
Groundwater	Inflow to the Kayuga Seam workings is predicted to be negligible (<10 ML/day) No measurable drawdown of shallow alluvial aquifers	Mine water make and existing stored water will be used for operational purposes, thus reducing demand on external water supplies Implementation of erosion and sediment controls during construction activities	
Surface water	Stored mine water will be reused for operational uses (no need for raw water) Excess mine water can be stored in the goaf (no need for discharges)		

#### **Environmental Impacts and Management**



Environmental Focus	Summary of impacts assessment for MOD 7	Summary of Management and Mitigation Areas
Aboriginal Heritage	No Aboriginal objects were identified within the disturbance area	Proposed infrastructure has been sited within an area of low archaeological sensitivity
Subsidence	Bord and Pillar mining will be designed such that subsidence is imperceptible for all practical purposes	Mining method mitigates this aspect with further commitment to study and assess interaction with previously mined out areas
Traffic	Truck movements represent <10% of the heavy vehicle movements on the New England Highway between Aberdeen and Muswellbrook	Movements are restricted to private, sealed roads owned by the mine with speed limits and load coverage to manage associated potential noise and air quality matters
Ecology	Surface disturbance will be limited to the construction of the new shaft site. Disturbance of ~2 ha of exotic grassland, with no impacts to native vegetation	No material impacts assessed

## **Support for MOD 7**

#### **Positive recommendation from DPE**

- **Department of Planning & Environment** provided a positive recommendation for Dartbrook MOD 7 based on their summary report<sup>1</sup> and referral letter to IPC
- Modification Application must be assessed on its merits
- AQC has entered into a joint venture agreement with SNR, an experienced underground mining company, to recommence mining at Dartbrook
- The recommencement of underground mining at Dartbrook will have insignificant environmental impacts and very material socio-economic benefits to the Upper Hunter Region and NSW more generally



IRF18/7164

Australian Pacific Coal ABN - 45 029 205 385 AST COSC ADE

Professor Mary O'Kana Chair Independent Planning Commission GPO Box 3415 SYDNEY NSW 2001

Dear Prof O'Kana

#### Dartbrook Coal Mine - Modification 7 (DA 231-7-2000 MOD 7)

The Department has received an application from AQC Dartbrook Management Pty Ltd to modify the development consent for Dartbrook Coal Mine under the former section 75W of the Environmental Planning and Assessment Act 1979.

The mine, which is located southwest of Aberdeen in the Upper Hunter Valley, has been in care and maintenance since 2006. The modification proposes to recommence underground mining on the site, using only bord and pillar mining methods, and with a varied coal clearance system.

During exhibition of the application, the Department received 42 objections, including an objection from Upper Hunter Shire Council. Under the Minister for Planning's delegation of 14 September 2011, the Independent Planning Commission of NSW must determine this application.

Based on its assessment, the Department considers that the modification is approvable, subject to imposing a strict and fully-updated set of contemporary conditions. To assist with your determination, I have enclosed the Department's assessment package.

If you have any further questions in relation to this matter, please contact Howard Reed. Director Resource Assessments on 9274 6308.

Yours sincerely

Marcus Ray **Deputy Secretary** Planning Services



## **Dartbrook Underground Mine**



